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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/659,962 | 09/11/2003 | John J. LaFond | 930038-2033 | 5882 |

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| EXAMINER | |
|---|---|
| HUG, ERIC J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1731 | |

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/659,962 | LAFOND ET AL. | |
| | Examiner | Art Unit | |
| | Eric Hug | 1731 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 September 2003 and 14 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *28-38* is/are allowed.

6)☒ Claim(s) *1-4,6-12,14 and 17-26* is/are rejected.

7)☒ Claim(s) *5,13,15,16 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1-6-05 and 6-14-04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4, 6-12, 14, and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahrens et al (US 5,853,547) in view of Karm (US 4,171,009).

Ahrens discloses a throughdrying (TAD) forming fabric having pockets for forming absorbent paper webs. The fabric is a single-layer fabric which comprises a system of machine direction (MD) yarns interwoven with a system of cross-machine direction (CD) yarns. The CD yarns are of alternating diameter, and contribute in the formation of the pockets. The larger CD yarns and warp yarns form the boundaries of the pockets and the smaller CD yarns provide structural support for the fabric and additional support for the fiber web formed thereupon. See column 6, line 66 to column 7, line 19. Thus, there is a plane difference in the forming surface of the fabric created by the different sized CD yarns and the warp yarns.

Regarding claims 1 and 17, the fabric of Ahrens differs from the claimed fabric in that it is a single layer fabric, i.e., has only one layer of CD yarns, as opposed to a double layer fabric having upper and lower sets of CD yarns. However, the use of double layer fabrics instead of single layer fabrics is well-documented throughout the art, and as pointed out by Applicant, double (and triple) layer fabrics are designed for fiber support on the forming side and for

stability on the wear side. If necessary, Karm is cited here as one reference in the prior art which discloses that double layer fabrics have been used instead of single layer fabrics to increase stiffness and rigidity. See, for example, column 1, lines 46-52 of Karm. Therefore, at the time of the invention it would have been obvious to one skilled in the art to modify the fabric of Ahrens from a single layer fabric to a double layer fabric by including an additional set of weft yarns on the wear side in order to enhance fabric stability.

Regarding the other claims:

2, 12, and 18. These would be the modifications towards a double layer fabric as described above.

3, 4, 19, and 20. The forming fabric is for the production of bulky tissue and paper towel products.

6, 10, 11, 22, 25, and 26. The filaments are preferably monofilaments but some may alternatively be multi-filament cable, flat monofilament, or flat monofilament with holes therethrough. See column 7, lines 59-64.

7-9, 23, 24. The filaments may be polyester, polyamide, vinyl, acrylic, nylon, or other materials as known in the art. The MD filaments and CD filaments need not be of the same material. The smaller diameter CD filaments may also differ in composition from the larger MD and CD filaments. Hollow, compressible yarns may be utilized instead of solid filaments. See column 7, lines 29-44.

14. The two different sized CD yarns alternate.

21. Each pocket includes two warp yarns at the same level. See Figure 9.

2. Claims 1-4, 6-10, 12, 14, 17-20, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gulya et al (US 5,839,479) in view of Karm (US 4,171,009).

Gulya discloses a papermaking forming fabric that imparts bulk to a paper web. The fabric comprises a system of MD filaments interwoven with a system of CD filaments, wherein the system of CD filaments has larger and smaller diameters defining a plane difference in the forming surface of the fabric. See column 2, lines 64 to column 3, line 3.

Regarding claims 1 and 17, the fabric of Gulya differs from the claimed fabric in that it has only one layer of CD yarns as opposed to having upper and lower sets of CD yarns. However, the use of double layer fabrics instead of single layer fabrics is well-documented throughout the art, and as pointed out by Applicant, double (and triple) layer fabrics are designed for fiber support on the forming side and for stability on the wear side. If necessary, Karm is cited here as one reference in the prior art which discloses that double layer fabrics have been used instead of single layer fabrics to increase stiffness and rigidity. See, for example, column 1, lines 46-52 of Karm (US 4,171,009). Therefore, at the time of the invention it would have been obvious to one skilled in the art to modify the fabric of Gulya from a single layer fabric to a double layer fabric by including an additional set of weft yarns on the wear side in order to enhance fabric stability.

Regarding the other claims:

2, 12, and 18. These would be the modifications towards a double layer fabric as described above.

3, 4, 19, and 20. The forming fabric is for the production of bulky paper products.

6-10, 22-25. The filaments are monofilaments having a circular cross-section. The MD and CD filaments may be polyester, polyamide, vinyl, acrylic and other materials as known in the art. The filaments may be of different compositions. See column 3, lines 13-23.

14. The two different sized CD yarns alternate.

3. Claims 1-4, 6-12, 14, and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostermayer et al (US 5,817,213) in view of Karm (US 4,171,009).

Ostermayer discloses a papermaking fabric which creates a patterned paper. The fabric comprises a system of MD yarns interwoven with a system of CD yarns, wherein the system of CD yarns has large and small diameter yarns defining a plane difference and resulting in pockets in the forming surface of the fabric. The CD yarns may alternatively have different shapes. See column 4, lines 33-50 and Figures 1-3. See particularly the location of surface planes E and F, described in column 5, lines 31-55.

Regarding claims 1 and 17, the fabric of Ostermayer differs from the claimed fabric in that it has only one layer of CD yarns as opposed to having upper and lower sets of CD yarns. However, the use of double layer fabrics instead of single layer fabrics is well-documented throughout the art, and as pointed out by Applicant, double (and triple) layer fabrics are designed for fiber support on the forming side and for stability on the wear side. If necessary, Karm is cited here as one reference in the prior art which discloses that double layer fabrics have been used instead of single layer fabrics to increase stiffness and rigidity. See, for example, column 1, lines 46-52 of Karm. Therefore, at the time of the invention it would have been obvious to one skilled in the art to modify the fabric of Ostermayer from a single layer fabric to a double layer

fabric by including an additional set of weft yarns on the wear side in order to enhance fabric stability.

Regarding the other claims:

2, 12, and 18. These would be the modifications towards a double layer fabric as described above.

3, 4, 19, and 20. The forming fabric is for the production of bulky absorbent paper products.

6-11, 22-26.

The yarns preferably are formed of synthetic monofilaments having a circular cross section. The weft yarns may also have shaped cross sections such as rectangular or oval and that all weft yarns may be of one or a plurality of cross sectional shapes. Alternatively shaped and circular cross sectional weft yarns could be utilized in an arranged sequence. The preferred synthetic materials forming the weft yarns are of polyamide, polyester, polyaryletherketones or a blend of any of the above. See column 4, lines 41-59.

14. The two different sized CD yarns alternate. See Figures 1 and 4, and column 4, lines 33-37.

21. Each pocket includes two warp yarns at the same level. See Figure 4.

***Allowable Subject Matter***

Claims 28-38 are allowed.

Claims 5, 13, 15, 16, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 28-38 are allowed for providing at least three different types of weft yarns in the top layer.

Claim 5 is allowable for specifying the weave pattern of the MD yarns.

Claims 13, 15, 16, and 27 are allowable for further providing a middle layer of weft yarns.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harrigan (US 1,616,222) discloses a papermaking wire screen which is woven in a manner to provide a pattern on paper formed thereupon. The weave may includes weft wires of different sizes. See particularly Figure 6 which shows a paper formed on a wire having larger wefts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192. The examiner can normally be reached on Monday through Friday, 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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